

DoD Global Influenza Surveillance Program: *Influenza Surveillance at AFIOH*

Overall Lab Surveillance

Total Specimens Collected

- Collected in Week 51: **59**
- Season Total: **655**

Newly identified Influenza

Newly identified; Cumulative

- Influenza A: **11** ; **35**
- Influenza B: **1** ; **4**

Newly subtyped influenza

Newly identified; Cumulative

- Influenza A/H3N2: **3** ; **21**
- Influenza A/H1N1: **1** ; **2**

Sentinel Site Lab Surveillance

Total Specimens Collected

- Collected in Week 51: **24**
- Season Total: **470**

Newly identified influenza

Newly identified; Cumulative

- Influenza A: **5** ; **21**
- Influenza B: **0** ; **2**

Newly subtyped influenza

Newly identified; Cumulative

- Influenza A/H3N2: **0** ; **8**
- Influenza A/H1N1: **0** ; **1**

Research Lab Surveillance

Total Specimens Collected

- Collected in Week 51: **8**
- Season Total: **42**

Newly identified Influenza

Newly identified; Cumulative

- Influenza A: **0** ; **0**
- Influenza B: **1** ; **2**

Newly subtyped influenza

Newly identified; Cumulative

- Influenza A/H3N2: **0** ; **0**

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Week 51

18-24 December 2005

Current WHO Phase of Pandemic Alert: **PHASE 3**

*Phase 3 = a new influenza virus subtype is causing disease in humans, but is not yet spreading efficiently and sustainably among humans. *The designation of phases, including decisions on when to move from one phase to another, is made by the Director-General of WHO.*

Source: [WHO](http://www.who.int)

Influenza (02 Oct - Present)

39 influenza viruses
35 Influenza A; 4 Influenza B

7% of the completed specimens were positive for an influenza virus: 6.2% influenza A; 0.7% influenza B.

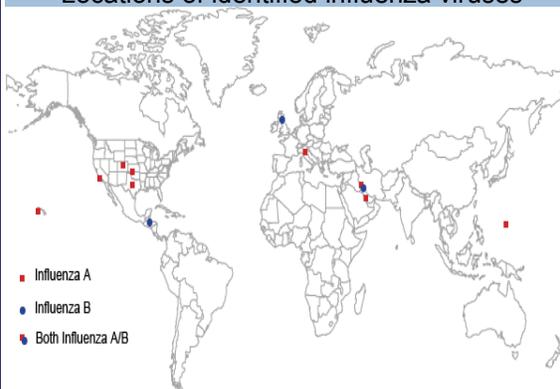
Influenza A

A (H1N1): 2
A (H3N2): 21
Not typed: 12

Influenza B

B (99): 0
B (01): 0
Not typed: 4

Locations of identified influenza viruses



Locations of identified influenza subtypes



Vaccination Status

33% of the active duty force is currently vaccinated with the 2005-2006 northern hemisphere vaccine (as of 07 Dec 05 - data updated monthly).

- 50% Air Force; 30% Army; 26% Navy; 25% Marine Corps; 22% Coast Guard

Update: Human Avian Influenza (H5N1)

No new information at this time.

Influenza Outbreaks

AFIOH has not been notified of any influenza outbreaks occurring at this time.

Publications

[Swine Influenza A Outbreak, Fort Dix, New Jersey, 1976](#). J.C. Gaydos, et al.

AFIOH Report Overview

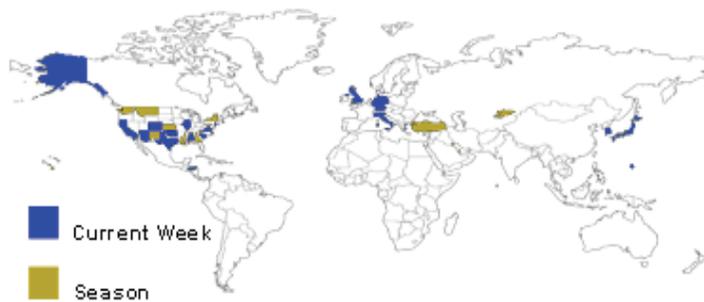
This report describes all respiratory viral cultures processed at the AFIOH laboratory. Specimens are collected from DoD beneficiaries at any of our 40 tri-service sentinel sites and several tri-service non-sentinel sites, and foreign nationals from DoD overseas research laboratories (Armed Forces Institute of Medical Sciences [AFRIMS], the Naval Medical Research Center Detachment [NMRC-D], and the US Army Center for Health Promotion and Preventive Medicine West [CHPPM-W]).

Please visit our [website](#) to review the "**Sentinel Site Surveillance Report**" for detailed information on our sentinel site program and specimens submitted by our sentinel sites.

Overall Laboratory Surveillance

Week 51 overview

- **Specimens "collected" in Week 51.** 59 specimens have been collected from 15 sites (10 sentinel, 4 non-sentinel, 1 overseas research lab) at this time. 24% (n=14) of these specimens have a completed result. Of these, 86% (n=12) were positive for influenza positive, 7% (n=1) adenovirus, and 7% (n=1) RSV.
- **Specimens "received" in Week 51.** 101 specimens were received at AFIOH and are undergoing processing at this time. Specimens were collected from patients during Weeks 48-51.

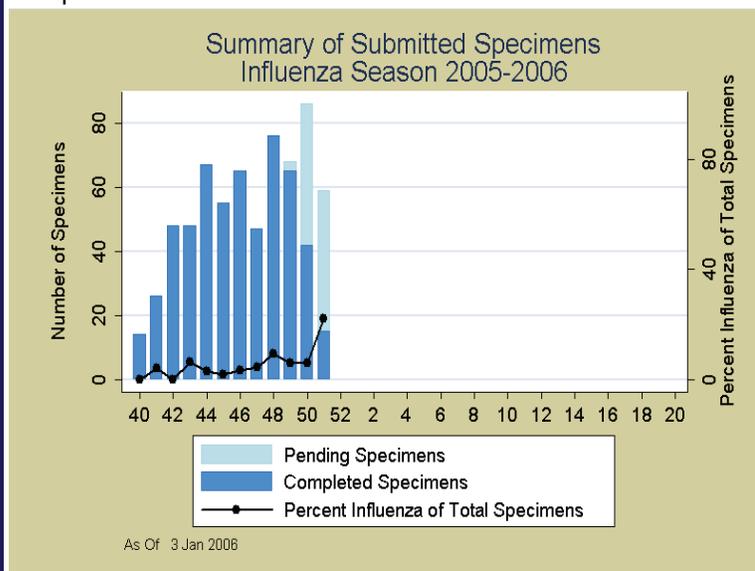


Season overview

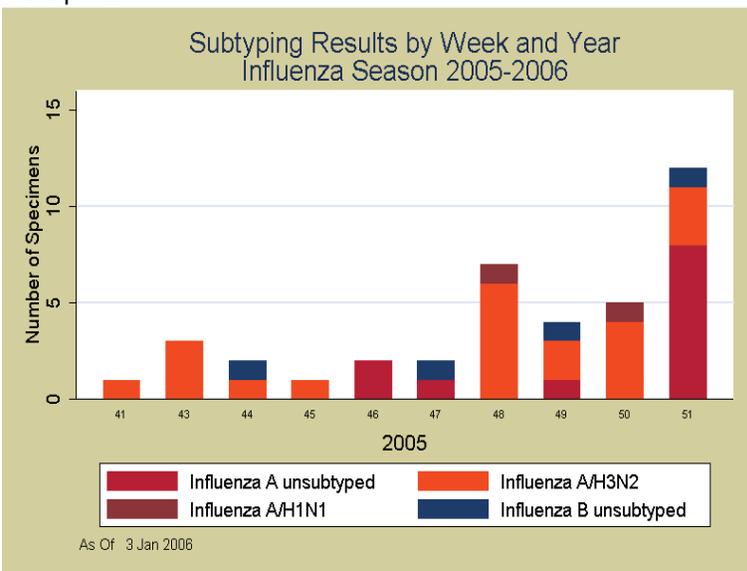
Since 02 October 2005, 655 specimens were collected and 86% (n=561) have a completed result. Seven percent of the completed specimens were positive for an influenza virus: 6.2% influenza A; 0.7% influenza B (Graph 1). Fifty-nine percent (n=23) of the influenza isolates have been subtyped to date: 21 influenza A/H3N2 ; 2 influenza A/H1N1 (Graph 2).

Of the specimens with completed results, 82% (n=461) were negative and 18% (n=100) were positive for a respiratory virus. Of these, 35% (n=35) were influenza A, 4% (n=4) were influenza B; 17% (n=17) were adenovirus, 28% (n=28) were parainfluenza, 9% (n=9) were enterovirus, 3% (n=3) were HSV; and 4% (n=4) were RSV. See Graphs 3-4 for a display of respiratory results by week collected and by FMP status.

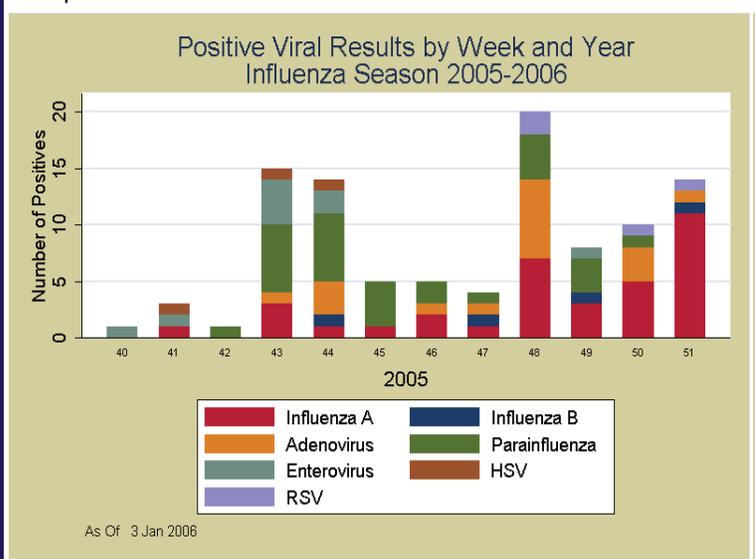
Graph 1.



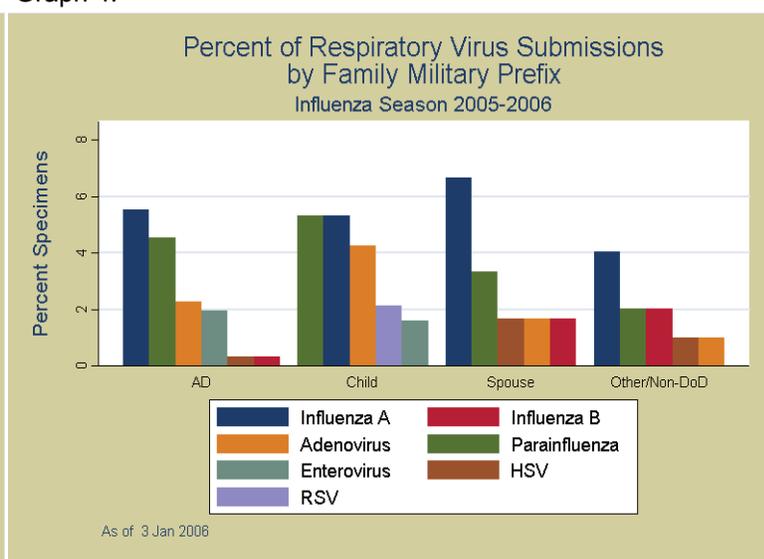
Graph 2.



Graph 3.



Graph 4.



Area of Responsibility (AOR)

Sentinel sites are located in the following AOR: CENTCOM (13%), EUCOM (16%), NORTHCOM (32%), and PACOM (39%). The "OTHER" AOR category includes specimens collected from foreign nationals at the overseas research lab locations, which are not considered sentinel sites.

Since 02 October 2005, influenza isolates were identified in each AOR (NORTHCOM [67%], PACOM [13%], CENTCOM [10%], EUCOM [5%], and OTHER [5%]). 100% of the isolates were submitted by sentinel sites, with the exception of the NORTHCOM (46% were submitted by sentinel sites) and OTHER AOR. See Table 1. for an overview of results from all specimens collected in Week 51 (as well as season totals) and received at the AFIOH laboratory at the time of this report.

Table 1. Laboratory Results by Area of Responsibility (AOR), Week 51 and Season Totals.

Result	Area of Responsibility										ALL SITES
	CENTCOM		EUCOM		NORTHCOM		PACOM		OTHER		
	Week	Season	Week	Season	Week	Season	Week	Season	Week	Season	
Influenza A		3		1	10	26	1	5			35
Influenza B		1		1					1	2	4
Adenovirus				2	1	11		4			17
Parainfluenza		1		9		17				1	28
Enterovirus		1		4		2		2			9
HSV		1		1						1	3
RSV					1	4					4
Negative		23		65		235		107		31	461
Pending	1	5	3	10	30	51	4	21	7	7	94
TOTAL RECEIVED	1	35	3	93	42	346	5	139	8	42	655

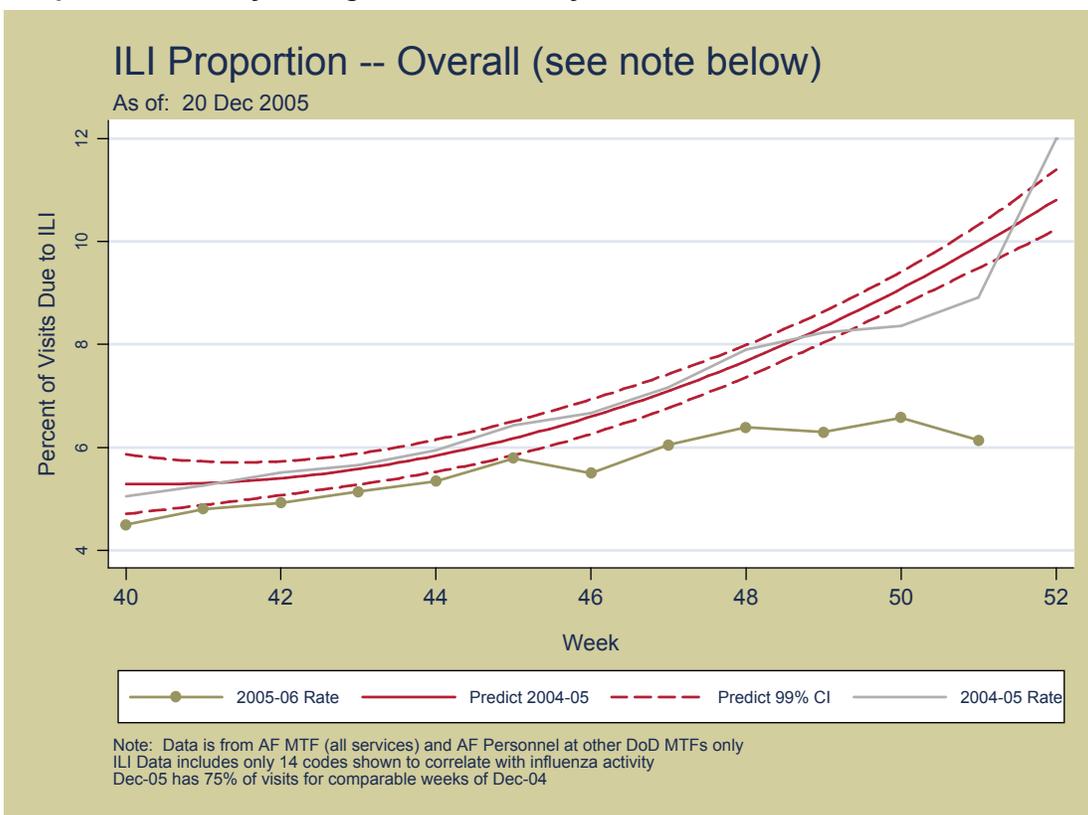
Note: "OTHER" AOR describes those specimens submitted by DoD overseas research laboratories and CHPPM-W sites.

Influenza-Like Illness (ILI)

Overview. Influenza-like illness (ILI) among Air Force MTFs has slightly increased since the season began, but has remained notably lower than expected (previous season data gathered retrospectively). Please see Graph 3 to observe the levels of ILI activity.

*Influenza-like illness (ILI) activity is gathered from the Standard Ambulatory Data Registry (SADR). The data are cleaned and a summary total of ICD-9's that match a smaller, but more specific and sensitive list of ICDs than is in the ESSENCE tool, are presented (Graph 3). The Surveillance Team at AFIOH are in the process of creating a DoD-wide ILI graph.

Graph 3. ILI Activity among Air Force Military Treatment Facilities



Influenza Surveillance

Sentinel Site Status. Fifty-nine percent (n=23) of the influenza isolates were collected from sentinel sites, 36% (n=14) were from non-sentinel sites, and 5% (n=2) were from an overseas research site (Table 2).

FMP. Patients with a positive influenza result were 46% (n=18) active duty members, 26% (n=10) children, 13% (n=5) spouses, and 15% (n=6) non-DoD beneficiary (Table 3).

Vaccination. Four patients were vaccinated > 14 days prior to becoming ill with influenza (Table 3).

Table 2. Influenza Demographics by SITE and REGION

Site by REGION	Sentinel Status	Newly Identified		Season		Total Influenza
		Flu A	Flu B	Flu A	Flu B	
West South Central						
Brooks City-Base, TX	Non-Sentinel	6	0	6	0	6
Lackland AFB, TX	Non-Sentinel	1	0	4	0	4
Tinker AFB, OK	Non-Sentinel	1	0	3	0	3
Mountain						
USAF Academy, CO	Sentinel	3	0	11	0	11
Pacific						
CGS Ketchikan, AK	Sentinel	1	0	1	0	1
Edwards AFB, CA	Non-Sentinel	0	0	1	0	1
Elmendorf AFB, AK	Sentinel	1	0	1	0	1
NMC San Diego, CA	Sentinel	0	0	1	0	1
Tripler AMC, HI	Sentinel	0	0	1	0	1
Pacific Rim						
Andersen AFB, Guam	Sentinel	0	0	2	0	2
Europe						
Aviano AB, Italy	Sentinel	0	0	1	0	1
RAF Lakenheath, U.K.	Sentinel	0	0	0	1	1
Deployed						
Al Udeid AB, Qatar	Sentinel	1	0	1	0	1
Camp Arifjan, Kuwait	Sentinel	0	0	2	0	2
Camp Buehring, Kuwait	Sentinel	0	0	0	1	1
Central America						
Honduras JTF Bravo	Research lab	0	1	0	2	2
Total Influenza		14	1	35	4	39

Table 3. Influenza Demographics: Age, FMP, Vaccination, and Hospitalization

Demographics for Positive Influenza Isolates

Demographics	Newly Identified		Season	
	A	B	A	B
Age (years)				
0-5	2	0	3	0
6-19	2	0	8	1
20-64	5	0	20	1
65 +	0	0	0	0
Unknown	4	1	4	2
OVERALL TOTALS	13	1	35	4
Family Prefix Status	A	B	A	B
Military member/Sponsor	4	0	17	1
Spouse	1	0	4	1
Child	4	0	10	0
Other/Unknown	4	1	4	2
OVERALL TOTALS	13	1	35	4

Demographics	Newly Identified		Season	
	A	B	A	B
Vaccination Status*				
Injection	3	0	4	0
Nasal Spray (FluMist)	1	0	1	0
Not Vaccinated	1	0	13	0
Unknown	0	0	4	2
OVERALL TOTALS	5	0	22	2
Hospitalization Status*	A	B	A	B
Hospitalized	0	0	0	0
Quarters	0	0	0	0
OVERALL TOTALS	0	0	0	0

*Describes sentinel site data only

Additional Influenza Surveillance: Army MEDCENS

The Army performs influenza surveillance at 6 Army Medical Center (MEDCEN) locations (Dwight David Eisenhower Army Medical Center [DDEAMC], Walter Reed Army Medical Center [WRAMC], Brooke Army Medical Center [BAMC], Madigan Army Medical Center [MAMC], Tripler Army Medical Center [TAMC], and Landstuhl Regional Medical Center [LRMC]), two of which are included in AFIOH's sentinel site surveillance network (please see map to right).



The Army MEDCEN sites are major medical centers equipped with the capability of detecting respiratory viruses, including influenza. It is important to note that the methodology varies at each site (i.e., testing procedures include direct fluorescent-antibody [DFA], various rapid antigen tests, culture, and polymerase chain reaction [PCR]) and reporting is routine, but varies from site to site (i.e., weekly, bi-weekly, monthly). The information reported and shared with AFIOH describes results from the individual MEDCENS and does not include demographic information at this time.

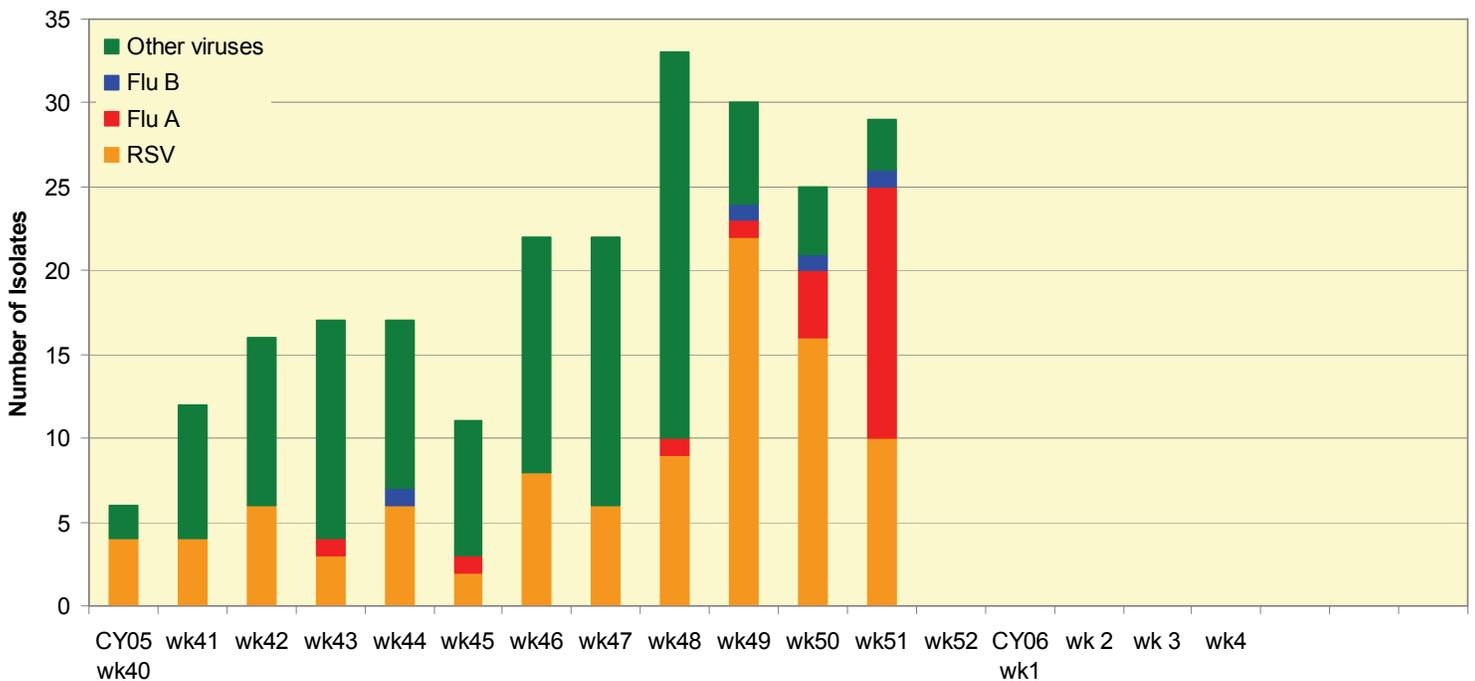
Week 51 overview. 151 specimens were collected and tested during Week 51 (10% [n=16] tested by LRMC; 34% (n=51) from BAMC; 18% (n=27) from WRAMC; 38% (n=57) from TAMC. 19% (n=29) were positive for a respiratory virus (15 influenza A; 1 influenza B; 10 RSV; 3 parainfluenza).

Season overview: Since 02 October 2005, 1,288 specimens were collected and tested. Eighty-one percent (n=1,048) were negative and 19% (n=240) were positive for a respiratory virus (23 influenza A; 4 influenza B; 96 RSV; 29 parainfluenza; and 85 adenovirus). Of the specimens collected and tested, 2% were positive for an influenza virus (Graph 4.).

Subtyping: No data to report.

POC for Army MEDCEN surveillance is MAJ Wade Aldous.

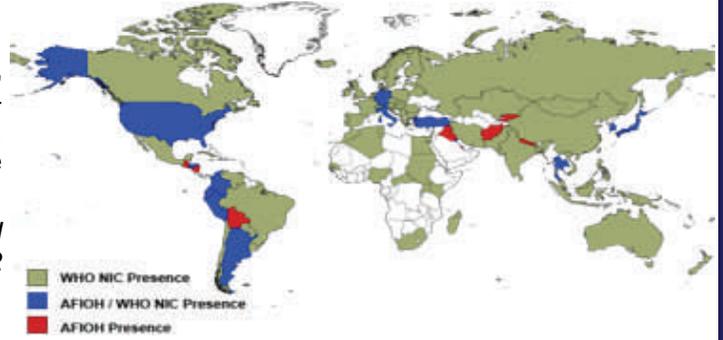
Graph 4. Number of Positive Respiratory Viruses, ARMY MEDCEN Weekly Report (as of 30 December 2005).



Contributions to National and Global Influenza Surveillance

It is important to note that although a country is highlighted, surveillance may be limited in scope. AFIOH provides surveillance data from 21 countries - 8 countries (Bolivia, El Salvador, Guatemala, Iraq, Kyrgyzstan, Nepal, Nicaragua, and Qatar) are not otherwise included in the current WHO network.

Note: Map describes countries submitting specimens to AFIOH and does not include all DoD contributing countries (i.e., NAMRU-2 and NAMRU-3 surveillance described on page 8).



Data Sharing

AFIOH electronically reports data to CDC using the Public Health Laboratory Information System (PHLIS). Data are used incorporated into WHO's and CDC's influenza surveillance. Additionally, data from Texas military sites are reported to the Texas Department of State Health Services (TDSHS).

CDC / WHO Influenza Surveillance

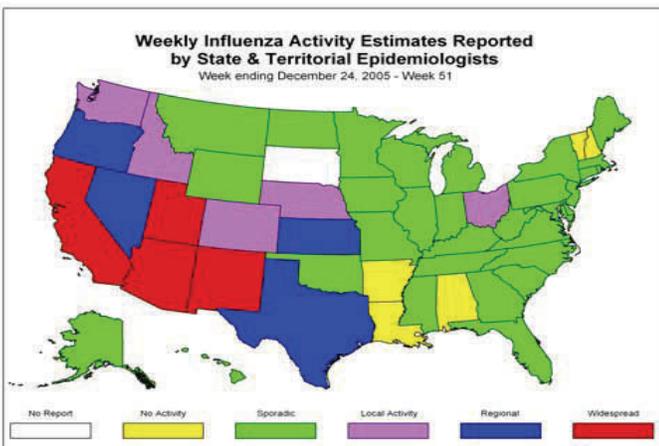
CDC reported a continued increase in influenza activity in the western US during Week 51. Of the specimens tested, 13.5% were positive for an influenza virus.

Please see the WHO influenza activity table and CDC and WHO maps below.

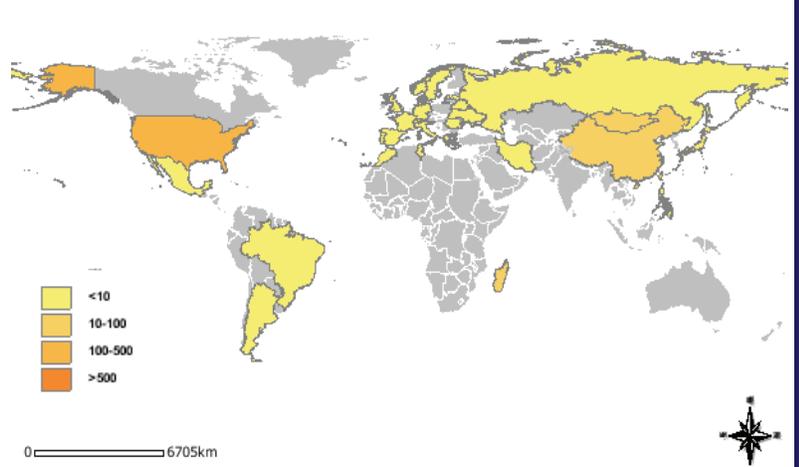
***WHO data may vary slightly from week to week. It is important to note that AFIOH uses the current week's data on WHO's website. Please refer to WHO's website for detailed information regarding the WHO Influenza Surveillance data.*

COUNTRY	WHO Surveillance (http://gamapserver.who.int/GlobalAtlas/)								Total Isolates
	A(H1)		A(H3)		A(not typed)		B (not typed)		
	Wk 51	Season	Wk 51	Season	Wk 51	Season	Wk 51	Season	
Argentina	0	0	0	0	0	0	0	10	10
Australia	0	0	0	0	0	2	0	13	15
Brazil	0	0	0	0	0	6	1	8	14
Chile	0	0	0	0	0	0	0	2	2
China	5	34	2	23	2	26	8	49	132
Egypt	0	1	0	0	0	0	0	0	1
France	0	3	0	0	1	1	1	4	8
Germany	0	0	0	0	0	1	0	0	1
Greece	0	0	0	0	0	0	0	1	1
Iran	0	0	0	0	0	0	1	1	1
Israel	0	0	0	2	0	0	0	1	3
Japan	4	34	4	117	0	0	0	1	152
Latvia	0	0	0	0	1	2	0	1	3
Madagascar	11	44	0	5	0	0	0	0	49
Mexico	0	23	0	63	1	131	0	4	221
Mongolia	0	0	9	10	12	17	0	0	27
Morocco	0	0	0	0	0	0	1	4	4
New Caledonia	0	0	0	2	0	4	0	0	6
Norway	0	0	0	1	1	1	6	11	13
Peru	0	0	0	0	0	10	0	1	11
Philippines	0	0	0	0	0	0	0	3	3
Poland	0	0	0	0	0	1	0	0	1
Portugal	0	2	0	0	0	0	0	6	8
Slovenia	0	0	0	1	0	0	0	1	2
Spain	0	0	0	0	0	0	0	0	0
Sweden	0	0	0	4	1	1	1	3	8
Switzerland	0	1	0	0	0	0	0	2	3
Thailand	0	2	0	51	0	4	0	66	123
Tunisia	5	28	1	5	0	0	0	2	35
Turkey	0	0	0	0	0	1	0	4	5
U.K	1	2	1	3	0	0	6	12	17
U.S.A	0	4	94	427	60	224	1	35	690
TOTAL	26	178	111	714	79	432	26	245	1,569

CDC U.S. Influenza Surveillance Map¹



WHO International Influenza Surveillance Map²



1. National Influenza Activity (CDC): <http://www.cdc.gov/ncidod/diseases/flu/weeklychoice.htm>
2. International Influenza Activity (WHO): <http://gamapserver.who.int/GlobalAtlas/home.asp>

Avian Influenza Updates

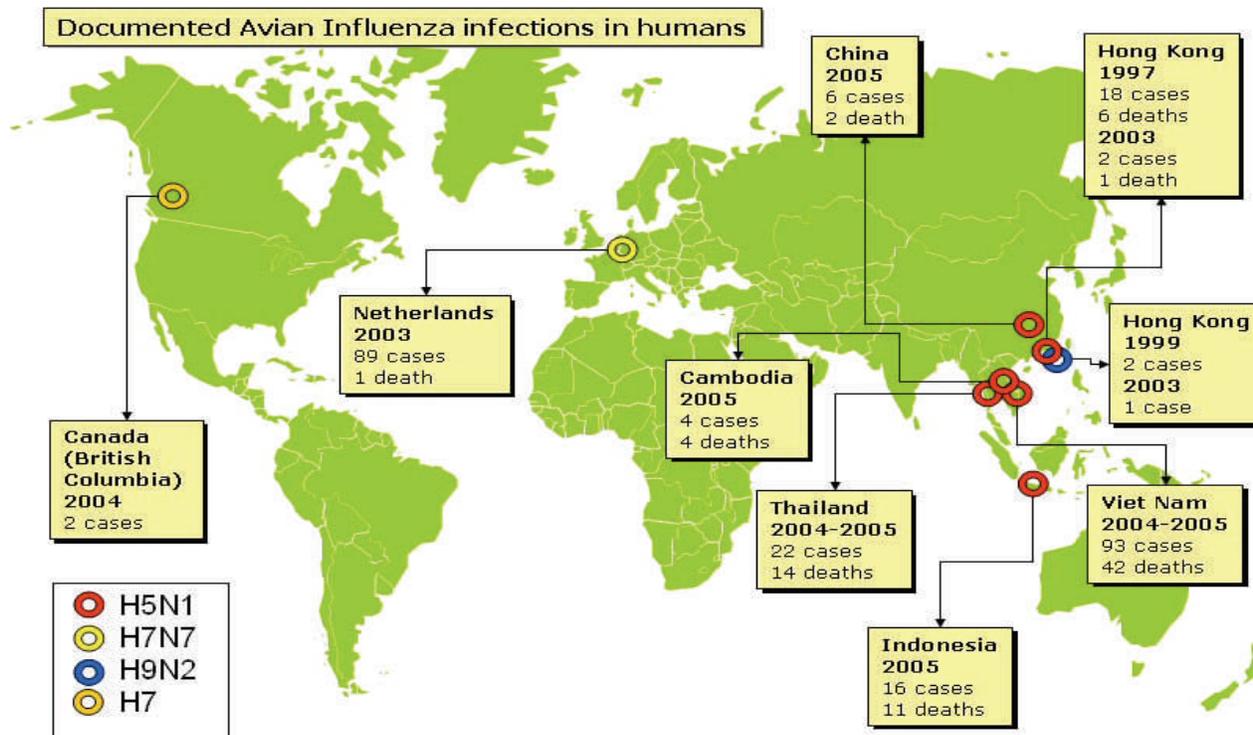
Human Avian Influenza. 141 cases of lab-confirmed avian influenza (52% case fatality rate). Table and map were gathered from the EUROPA website on 03 January 2006 (has not been updated since last weekly report).

Reference: http://europa.eu.int/comm/health/ph_threats/com/Influenza/ai_current_en.htm

Current Situation of Avian Influenza and human cases related to the H5N1 virus subtype
(as of 23 December 2005)

Country	Cumulative number of confirmed human cases						Comments
	Cases			Deaths			
	2003	2004	2005	2003	2004	2005	
Cambodia	0	0	4	0	0	4	No new case reported since 4 May.
China (People's Rep. of)	0	0	6	0	0	2	One additional case confirmed in Jiangxi province. Symptoms onset on 4 December, currently hospitalised, H5 detected in ducks where the case was living. Outbreaks in poultry in nine provinces since mid-October.
Indonesia	0	0	16	0	0	11	Two new fatal cases confirmed: the first developed symptoms on 8 December, hospitalised on 13 December and died on 15 December; the second case had onset of symptoms on 9 December, hospitalised on 11 and died on 12 December. H5N1 endemic in poultry and widespread.
Thailand	0	17	5	0	12	2	One additional fatal case reported with onset of symptoms on 25 November, hospitalised on 5 December and died on 7 December. Several outbreaks in poultry reported to OIE on 3 November in three provinces.
Viet Nam	3	29	61	3	20	19	One new case confirmed with onset of symptoms on 14 November. The case is now recovering
	3	46	92	3	32	38	
	141			73			

Number of cases includes number of deaths. All cases are laboratory-confirmed. Bold text indicates changes from previous update.



Data as of: 23.12.2005

DoD Global Influenza Surveillance Program Background

DoD-GEIS Influenza Surveillance Network

The DoD Global Influenza Surveillance Program was established by the Global Emerging Infections Surveillance and Response System (GEIS) in 1997. It involves a unique network of influenza surveillance efforts from the Air Force (global influenza surveillance established in 1976), the Navy (recruit adenovirus surveillance established in 1996), and the DoD overseas medical research facilities (i.e., the Naval Medical Research Unit located in Cairo, Egypt [NAMRU-2] and the Naval Medical Research Unit located in Jakarta, Indonesia [NAMRU-3]).

AFIOH Influenza Surveillance Network

In 1976, the US Air Force Medical Service began conducting routine lab-based surveillance of influenza throughout the world. Efforts were expanded when it became part of the DoD-GEIS influenza surveillance network in 1997. AFIOH manages the Air Force surveillance program that includes global influenza surveillance among DoD beneficiaries at 39 tri-service sentinel sites (including deployed locations in Iraq, Qatar, and Kyrgyzstan), several non-sentinel sites, two DoD overseas medical research laboratories (the Armed Forces Research Institute of Medical Sciences located in Bangkok, Thailand [AFRIMS], and the U.S. Naval Medical Research Center-Detachment [NMRC-D] located in Lima, Peru) that collect specimens from local residents in Nepal, Thailand, Argentina, Bolivia, Ecuador, Peru, and Colombia, and the US Army Center for Health Promotion and Preventive Medicine-West (CHPPM-W), that collect specimens from local residents in El Salvador, Guatemala, and Honduras.

Processing Methods

Specimens are processed in BSL-2 conditions (BSL-3 available) and tested for influenza, parainfluenza, adenovirus, enterovirus, herpes simplex virus (HSV), and respiratory syncytial virus (RSV). Specimens are held up to 14 days before a negative result is given. All influenza isolates are typed as A or B and a portion are subtyped using hemagglutination-inhibition (HI) or polymerase chain reaction (PCR) procedures. A portion of these isolates undergo molecular sequencing.

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2005-2006 Trivalent Influenza Vaccine Composition

Northern Hemisphere

- A/New Caledonia/20/99-like (H1N1)
- A/California/7/2004-like (H3N2)
- B/Shanghai/361/2002-like

2006 Southern Hemisphere

- A/New Caledonia/20/99-like (H1N1)
- A/California/7/2004-like (H3N2)*
- B/Malaysia/2506/2004

*The currently used vaccine virus is A/New York/55/2004

This report was prepared on **03 January 2006** by Angela Owens. For an expanded view of the information in this report, visit our website at <https://gumbo.brooks.af.mil/pestilence/Influenza/>. Also available on our website is a list of previous weekly surveillance reports, program information for sentinel sites (including an educational briefing and instruction pamphlets for clinic staff), and an overview of historical data.

Please visit the [DoD-GEIS website](#) for an overview of influenza surveillance at all collaborating centers.



AFIOH Contact Information

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